

## ABSTRACT

A process of co-extrusion of a thin electrode sheet with a thin electrolyte polymer sheet directly onto a current collector sheet for a lithium polymer battery. The process includes the steps of:

- (a) mixing a polymer with active electrode material, lithium salt and electronic conductive material in a first mixing chamber to form an electrode slurry;
- (b) mixing a polymer with a lithium salt in a second mixing chamber to form an electrolyte slurry;
- (c) feeding the electrode slurry through a first flow channel and the electrolyte slurry through a second flow channel;
- (d) extruding the electrode slurry in the form of a thin electrode sheet through a first die opening connected to the first flow channel, the electrode slurry being extruded directly onto a current collector sheet; and
- (e) concurrently extruding the electrolyte slurry in the form of a thin electrolyte sheet through a second die opening adjacent to the first die opening and connected to the second flow channel, the thin electrolyte sheet being extruded directly onto the thin electrode sheet.